

## WHAT IS CLAIMED IS:

- 1           1.       A method for selectively increasing the performance of a customer's  
2       data processing system, wherein the data processing system has a maximum  
3       performance level, the method comprising:  
4           providing a first authorization key to the data processing system, the first  
5       authorization key allowing an initial performance level that is less than the maximum  
6       performance level of the data processing system;  
7           receiving a request from the customer for an increase in performance of the  
8       data processing system; and  
9           providing a second authorization key that increases the performance level of  
10       the data processing system above the initial performance level.
- 1           2.       A method according to claim 1, wherein the second authorization key  
2       has an expiration date.
- 1           3.       A method according to claim 3, wherein the data processing system  
2       returns to the initial performance level when the second authorization key expires.
- 1           4.       A method according to claim 1, wherein the second authorization key  
2       has a maximum time of use, the maximum time of use specifying the maximum time  
3       that the data processing system can execute above the initial performance level.

1           5.       A method according to claim 4, wherein the data processing system  
2 returns to the initial performance level when the maximum time of use specified by the  
3 second authorization key is reached.

1           6.       A method for selectively changing the performance of a data processing  
2 system, wherein the data processing system includes one or more processors that can  
3 selectively operate at a performance level that is below a maximum performance level  
4 of the processor, the method comprising:

5           providing an authorization key to the data processing system, wherein the  
6 authorization key specifies a new performance level for at least one of the processors;  
7 and

8           increasing the performance level of at least one processor to the new  
9 performance level.

1           7.       A method according to claim 6, further comprising the step of verifying  
2 the authorization key.

1           8.       A method according to claim 7, wherein the data processing system has  
2 a corresponding serial number and the authorization key specifies a serial number, the  
3 verifying step comparing the serial number of the data processing system to the serial  
4 number of the authorization key.

1           9.     A method according to claim 8, further comprising the step of  
2     preventing the increasing step if the serial number of the authorization key does not  
3     match the serial number of the data processing system.

1           10.    A method according to claim 7, wherein the data processing system  
2     maintains a current date and the authorization key specifies an expiration date, the  
3     verifying step comparing the expiration date of the authorization key to the current  
4     date maintained by the data processing system to determine if the authorization key has  
5     expired.

1           11.    A method according to claim 10, further comprising the step of  
2     preventing the increasing step if the authorization key has expired.

1           12.    A method according to claim 10, further comprising the step of  
2     decreasing the performance level of the at least one processor designated by the  
3     authorization key to a previous performance level when the authorization key expires.

1           13.    A method according to claim 7, wherein the authorization key specifies  
2     a maximum time of use, the verifying step determining if the time of increased  
3     performance level of the at least one processor exceeds the maximum time of use.

1           14.    A method according to claim 13, further comprising the step of  
2   preventing the increasing step if the increase in performance level of the at least one  
3   processor has exceeded the maximum time of use.

1           15.    A method according to claim 13, further comprising the step of  
2   decreasing the performance level of the at least one processor designated by the  
3   authorization key to a previous performance level when the time of increased  
4   performance level of the at least one processor exceeds the maximum time of use.

1           16.    A method according to claim 6, wherein the providing and increasing  
2   steps are performed while the data processing system is in use.

1           17.    A method according to claim 6, wherein the performance level of the at  
2   least one processor is increased under software control.

1           18.    A method according to claim 17, wherein the performance level of the  
2   at least one processor is increased under the control of the operating system of the data  
3   processing system.

1           19.    A method according to claim 18, wherein the operating system  
2   maintains a table that includes entries that identify the processors in the data processing  
3   system, and further identify the allowed performance level of each processor.

1           20.    A method according to claim 19, wherein the performance level of  
2   selected processors is increased by changing the corresponding entries in the table to a  
3   new performance level.

1           21.    A method according to claim 20, wherein the operating system detects  
2   the changes in the table, and changes the performance level of the corresponding  
3   processors to the new performance level.

1           22.    A method according to claim 21, further comprising changing selected  
2   entries in the table so that the performance level of selected processors are returned to  
3   a previous performance level.

1           23.    A method according to claim 6, wherein the authorization key is  
2   encrypted, and the authorization key is decrypted before use.

1           24.    A method for selectively changing the performance of a data processing  
2   system, wherein the data processing system includes two or more processors and a  
3   limit is placed on the number of processors that are available for use, the method  
4   comprising:

5           providing an authorization key to the data processing system, wherein the  
6   authorization key specifies a new limit on the number of processors that are available  
7   for use; and

8 increasing the performance level of the data processing system by activating  
9 one or more of the processors that were previously unavailable for use.

1 25. A method according to claim 24, further comprising the step of  
2 verifying the use of the authorization key.

1 26. A method according to claim 25, wherein the data processing system  
2 has a corresponding serial number and the authorization key specifies a serial number,  
3 the verifying step includes comparing the serial number of the data processing system  
4 to the serial number of the authorization key.

1 27. A method according to claim 25, wherein the data processing system  
2 maintains a current date and the authorization key specifies an expiration date, the  
3 verifying step comparing the expiration date of the authorization key to the current  
4 date maintained by the data processing system to determine if the authorization key has  
5 expired.

1 28. A method according to claim 27, further comprising the step of  
2 preventing the increasing step if the authorization key has expired.

1 29. A method according to claim 27, further comprising the step of de-  
2 activating selected processors so that the number of active processors is less than or  
3 equal to the original limit of processors when the authorization key expires.

1           30.    A method according to claim 25, wherein the authorization key  
2   specifies a maximum time of use, the verifying step determining if the time of the  
3   increased performance level of the data processing system exceeds the maximum time  
4   of use.

1           31.    A method according to claim 30, further comprising the step of  
2   preventing the increasing step if the time of the increased performance level of the data  
3   processing system exceeds the maximum time of use.

1           32.    A method according to claim 30, further comprising the step of de-  
2   activating enough processors so that the number of active processors is less than or  
3   equal to the original limit of processors when the time of use of the additional  
4   processors exceeds the maximum time of use.

1           33.    A method according to claim 24, wherein the providing and increasing  
2   steps are performed while the data processing system is in use.

1           34.    A method according to claim 24, wherein the one or more processors  
2   are activated under software control.

1           35.    A method according to claim 34, wherein the one or more processors  
2   are activated by the operating system of the data processing system.

1           36.    A method according to claim 35, wherein the operating system  
2 maintains a table that includes entries that identify the processors in the data processing  
3 system, and further identify which processors are available for use.

1           37.    A method according to claim 36, wherein the increasing step changes  
2 selected entries in the table to indicate that one or more of the processors that were  
3 previously unavailable for use are now available for use.

1           38.    A method according to claim 37, wherein the operating system detects  
2 the changes to the table, and ups the processors that are indicated as available for use  
3 that were previously unavailable for use.

1           39.    A method according to claim 38, further comprising changing selected  
2 entries in the table so that selected processors that are available for use are de-  
3 activated and become unavailable for use to return to the original limit on the number  
4 of processors that are available for use.

1           40.    A method according to claim 39, wherein the operating system detects  
2 the changes to the table, and downs the processors that are indicated as unavailable for  
3 use.

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